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ABSTRACT

This paper presents second phase research on the vision of Puerto Rico's higher education policy makers concerning excellence criteria. The research focused on the importance policy makers assigned to selected criteria of excellence and how they evaluated postsecondary institutions in regard to these criteria. A questionnaire was administered to 46 members of the Commissions on Education of the Puerto Rico Legislature, composed of the administrators and governing boards of the five major public and private postsecondary institutions in Puerto Rico and prominent academic figures. Among the findings were the following: (1) respondents ranked as important the excellence criteria concerning faculty and administrators, and believed that the institutions were accomplishing such criteria; (2) the most prominent excellence criteria were the academic preparation of faculty, the expertise of faculty, the administrators' dedication, entering students' general point average, and college entrance examination scores; (3) private institutions placed more importance on students' understanding of religious principles, while public institution respondents highlighted adequate services rendered by the Registrar's Office; and (4) compared to public institution respondents, private institution respondents indicated a higher degree of fulfillment in areas such as administrators' perspective regarding the future of higher education and their ability to establish relations with the external community. The paper also found that most respondents felt that Puperto Rico institutions were not complying with 64% of the indicators of excellence. (GLR)

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Excellence in Higher Education as Defined by Legislators, and Public and Private Institutions Administrators PHASE TWO

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Paper presented at the 32nd Annual Forum of the Association for Institutional Research

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for Management Research, Policy Analysis, and Planning

This paper was presented at the Thirty-Second Annual Forum of the Association for Institutional Research held at the Atlanta Hilton & Towers, Atlanta, Georgia, May 10-13, 1992. This paper was reviewed by the AIR Forum Publications Committee and was judged to be of high quality and of interest to others concerned with the research of higher education. It has therefore been selected to be included in the ERIC Collection of Forum Papers.

Jean Endo
Chair and Editor
Forum Publications
Editorial Advisory Committee

ABSTRACT

This is the second phase of a research that studies the vision of policy makers toward excellence criteria. This research focuses on the importance that such policy makers assigned to selected criteria of excellence and how they evaluate post-secondary institutions in regard to these criteria.

A modified version of the Delphi methodology was used to rank the excellence criteria identified on the first phase of this study. The questionnaire was administered to a sample of the Commissions on Education of the Puerto Rico Legislature, the administrators and governing boards of the five major public and private postsecondary institutions in Puerto Rico and prominent figures of the academia. The main findings of this second phase show that:

1. Respondents ranked as important the criteria concerning faculty and administrators and at the same time believed that the institutions are accomplishing such criteria.
2. The greatest differences by institutional control were: student's understanding of religious principles, highlighted by private institutions respondents, and adequate services rendered by the Registrar's Office, highlighted by public institutions respondents.
3. Private institutions respondents indicated a higher degree of fulfillment in areas such as: administrators' perspective regarding the future of higher education and their ability to establish relations with the external community. Public institutions respondents considered the administrators' academic preparation.
4. Respondents believe that several important criteria are not present in Puerto Rico's higher education institutions.

However, for this study to be comprehensive, it is necessary to survey students, faculty members, support staff, parents and employers.

INTRODUCTION

States are taking the initiative to improve or achieve excellence in their higher education system. Although there is no consensus in the literature regarding the definition and the criteria that define excellence, there are common elements upon which an agreement may be reached. Educators believe that the criteria that define excellence depend on the particular time period and the nature of the institutions.

During the last two decades, postsecondary education in Puerto Rico has experienced an accelerated growth, due in part to the economic federal aid the Island has received in the form of scholarships. According to Irizarry (1990) "Puerto Rico occupies the fifth place in the world in postsecondary enrollment rate." Official statistics showed that for the year 1990, 84 percent of the total enrollment is handled by five major institutions: University of Puerto Rico, Inter American University, Ana G. Méndez Educational Foundation, Catholic University, and The Sacred Heart University. The first one is the state university and the others are private institutions. Crespo (1985) indicated that competition among Puerto Rico's higher education institutions gears primarily around their institutional image. They give "special attention" to the academic programs, faculty preparation, study environment and physical facilities, among others. Since 1989, these five institutions and another twenty six accredited institutions in Puerto Rico are in a process of evaluation and reform; all of them claim that they are achieving excellence.

As stated by Navas (1984), the search for excellence will give direction to every institution in the 21st century. Without a commitment to excellence, universities have no sense in practical and substantive terms. However, the perception of excellence in the Island seems to be determined by the accreditation process, specifically by the Middle States Association of Colleges and Schools (MSA). This perception of excellence

will continue until local indicators of excellence are developed by the institutions.

In order to determine the criteria for defining excellence in the Puerto Rico Higher Education System, Muñoz et. al. (1991) implemented a Delphi Methodology. An open questionnaire was administered to the Legislative Commission on Education in Puerto Rico, the administrators and governing boards of the major public and private postsecondary institutions in Puerto Rico, and prominent figures of the academia. The findings of the first phase of the study show that, in general terms and when referring to students, respondents were likely to mention students' academic achievement as an important excellence criterion. In regard to academic programs and curriculum, respondents were likely to mention its pertinence and comprehensiveness as excellence criteria. The academic preparation of the faculty and their mastering of the teaching - learning process were considered essential criteria. Sufficient and adequate were the indicators of excellence stated by respondents when referring to institutional resources. A deep concern for and commitment to the community were the criteria most frequently mentioned by respondents in regard to external environment. Respondents were likely to consider both traditional and value-added approaches when identifying excellence criteria.

This presentation will constitute the second phase of this study.

REVIEW OF LITERATURE

Historically, American higher education systems looked to traditional concepts as indicators of excellence. Skinner and Tofel (1986) pointed out that traditional approaches to excellence have their own merit, but are limited because they do not reflect the total quality or excellence of a given program. Astin (1985) pinpoints that colleges and universities have been classified as "excellent" on the basis of four traditional concepts: reputation, resource allocation, content, and outcomes.

According to the reputation concept, excellence is based on what people believe constitutes the best or most "excellent" institution. From this perspective, elite universities will always be ranked as excellent institutions. The resource allocation view deals with the amount and quality of personnel, students, physical facilities, and financial resources furnished. For example, the quality of faculty is assessed by the proportion of doctorates, research and publication rates; student quality is measured in terms of students' high performance on standardized tests, outstanding high school records; physical plant is evaluated in terms of the quantity and quality of classrooms, library resources and facilities; fiscal resources are assessed by large endowments and by student expenditures. As a result, when measured by the concept of resources, universities that meet the above criteria will always be considered "excellent".

Excellence as content refers to what an institution teaches. According to this concept an institution rated as excellent have a strong component in liberal arts, specially within science programs, having as its only exception the technologically oriented universities which award degrees in engineering. The concept of outcome measures excellence in terms of the quality of its product. That is, institutions are rated "excellent" by the proportion of its alumni who are awarded graduate fellowships or who pursue and obtain doctorates, alumni high lifetime earnings, alumni rating of their undergraduate experience, among other factors.

An institution that wants to achieve excellence should consider each and every one of these approaches. For instance, an institution with lavish library resources not used by students and faculty is not promoting the development of talent. Similarly, if the faculty is not committed to the teaching-learning process, little contribution to excellence should be expected. It seems that these traditional ways of defining and measuring "institutional excellence" are not necessarily

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effective in developing the talent of both student and faculty (Astin, 1985). Achieving high quality or excellence in the educational process requires that serious attention be given to what is actually being done to promote or inhibit the cognitive and affective development of each student and the professional growth of the faculty (Bergquist and Armstrong, 1986).

Astin (1985) believes that excellence has to be defined to reflect an institution's ability to significantly change or develop the talent of the students and faculty. In regard to students, excellence refers to changes attributable to the college experience in terms of intellectual capacities and skills, values, attitudes, interests, habits, mental health, and career outcomes. Excellence as it relates to faculty deals with improvement in teaching, research or scholarly skills, and productivity that results from working in that institution. This definition is known as the "value-added" approach of quality (Solomon, 1981). An institution must determine what students bring with them and must assess what students obtain from college in order to measure the impact of the institution in the student body (In Pursuit of Degrees with Integrity, Northeast Missouri State University, 1984).

How is Excellence Measured?

In 1984, Gilley et. al. (1986) began the search for models of institutions of higher education that were moving toward new levels of excellence. The result of the twenty institutions that were studied in depth showed ten common characteristics among them: 1) a mission, well known to the community, which states the institution's direction and its anticipated future; 2) the presence and recognition of leadership from the president; 3) dynamically supportive boards; 4) significant emphasis on teamwork and the creation of strong administrative teams with high spirit of collaboration; 5) deep concern to community needs and its support; 6) an atmosphere that promotes individual initiatives and recognition; 7) commitment to the institution; 8) an intense

concern for the quality of the education provided to students and the experience earned by the faculty; 9) the capacity to be responsive to the external environment opportunities; and 10) the focus on quality or excellence in their present and future programs.

Indicators of Quality or Excellence in Terms of:

Students: As mentioned above, traditionally student quality or excellence has been measured in terms of skills and knowledge when entering the higher education system. Usually, institutions claim they are excellent when they enrolled highly talented students. According to the Middle States Association of Colleges and Schools, an excellent institution is one that considers potential, motivation and will to learn when selecting the students.

Until the 80's, researchers paid little attention on measuring the impact of college experiences on students. However, as Mingle (1986) indicates, institutions have to measure how much value they are adding to enrolled students. The "value-added" is the true measure of the graduates' personal and professional competencies acquired as a result of his/her years in the university or college. Skinner and Tofel (1986) point out that high ranking performance examinations, outstanding written works, and active participation in students professional organizations are some of the indicators of quality in students. Student satisfaction should be used as an indicator of institutional excellence coupled with the enhancement of their cognitive and affective development (Astin, 1985).

Academic Programs: Researchers (Skinner and Tofel, 1986; and Bergquist and Armstrong, 1986) point out that programs judged to be of high quality or excellent show common characteristics: 1) purposes and objectives related to the needs and interests of their current and potential students; 2) match between students' characteristics and the resources essential for their success; 3) faculty who pay attention to: its role in

undergraduate teaching, curriculum development and implementation, and student-teacher relationship; 4) acknowledgement of faculty, students, staff and the surrounding community; 5) undergraduate student involvement in scholarly activities; 6) systematic internal program reviews; 7) a consideration of the history, mission, purpose, style, resources, and the future in the design of the program; 8) intended learning outcomes clearly defined and the achievement of them fully documented and communicated; and 9) provides opportunities to assess each learners' knowledge, skills, attitudes, values, behaviors, and needs in order to enhance his/her personal and professional development.

Besides these characteristics, a high quality or excellent program must show congruence among the curriculum that is described in the catalogue, the curriculum taught by the faculty, and the curriculum that is learned by students (Cross, 1975 as quoted by Bergquist and Armstrong, 1986). An excellent academic program is also linked to other programs at the institution and enables others to exhibit the same characteristics. According to Mayhew et. al. (1990), a quality undergraduate program will prepare students to use words, numbers and abstract concepts and to understand, cope with, and influence the environment in which they live.

Faculty: During the 60's and 70's faculty research productivity was one of the most used variables to measure quality or excellence (Tan, 1986). Sherman et. al. (1987) identified five characteristics that describe excellent teachers or college instructors: enthusiasm, clarity, preparation and organization, "stimulating", and knowledge. Enthusiasm refers to faculty's attitude and interest towards the subject matter they teach. Clarity deals with the ability to clearly explain concepts. Preparation and organization describes the structured activities professors perform before delivering the lesson. "Stimulating" refers to the development of students' critical thinking skills, interest, and thoughtfulness in the subject matter. Knowledge refers to the deep understanding and love for the subject they teach. Besides these

characteristics, they found that the progressive development of teaching skills is very important to be an excellent teacher. Furthermore, it has been found that a qualified faculty will use teaching strategies that respond to student learning styles and developmental levels (Lindquist, 1981).

Institutional Environment: It is a popular belief that an institution with massive resources is an "excellent" institution. However, as Astin (1985) indicates the quality of the resources available in an institution must be measured in terms of how those resources are used to enhance the cognitive and affective development of students and faculty. The Middle States Association (1990) pinpoints some indicators of excellence in an institution: 1) services adequate to the student's development and degree level; 2) counseling services suitable to the needs and aspirations of students; 3) physical facilities suitable to the institutions' programs and functions; 4) library and learning resources consistent with the mission and goals of the institution and according to the diversity of its curriculum and degree offerings; 5) adequate, updated and well maintained equipment; 6) institutional financial stability; and 7) administrative staff and leadership with a "clear definition of administrative and academic responsibilities, within a secure framework of academic freedom" (p. 5).

External Environment: Studies relating the external environment with excellence in higher education were not found. However, it is a well known fact that an excellent academic program is one that considers the current and future needs of the surrounding society, and that articulates its curriculum to current technology and innovative knowledge. It seems that the quality of learning provided to students depends, to some extent, on the elements surrounding the educational enterprise.

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PURPOSE

This is the second phase of a research that studies the criteria that define excellence in public and private higher education institutions in Puerto Rico. This paper focuses on the priority that various policy makers (university administrators, legislators, prominent figures of the academia and members of the government boards) assigned to the criteria of excellence perceived by themselves and how do they evaluate post-secondary institutions in regard to these criteria. The first purpose of this study was to determine which criteria were considered most important for the policy makers and the degree of fulfillment higher education institutions have achieved in regard to such criteria. The second purpose was to compare the rankings by institutional control (public and private) in terms of relative importance and degree of fulfillment. The third purpose was to determine if there are significant differences between the relative importance assigned to the criteria and the degree of fulfillment with these criteria by the institutions. The fourth purpose was to determine if there are significant differences among the constituencies in regard to the importance they assigned to the criteria and their perceptions of degree of fulfillment with these criteria by the Puerto Rican institutions.

DATA SOURCE

A Delphi methodology was used to rank the criteria identified on the first phase of this study. Based on this ranking a close-ended questionnaire was developed. The questionnaire "Excellence in Post Secondary Education in Puerto Rico" consists of four sections inherent to the different areas of university life, as established by the Middle States Association in the manual Characteristics of Excellence in Higher Education : Students, Academic Programs, Institutional Environment and External Environment. The instrument included 99 excellence criteria that were identified in the first phase of this study. It also includes a

section asking general information of those surveyed. The questionnaire was submitted to experts in the field of higher education and/or research methodology. The final version of the instrument included their recommendations and observations.

In the first phase of the study the questionnaire was sent to 181 subjects from which 75 answered giving a response rate of 41.4 percent. In this second phase the questionnaire was sent to the 75 subjects that participated in the first phase. The survey resulted in 46 usable responses for a 61.3 percent response rate. Table 1 shows the sample composition and response rate distribution.

TABLE 1

Sample Composition and Response Rate

Category	Original Sample	First Phase Respondents	Responding Rate (%)	Second Phase Respondents	Responding Rate(%)
Legislators	25	11	44.0	3	27.3
Administrators	63	27	42.9	27	100.0
Governing Boards	88	32	36.4	13	41.0
Prominent Figures	5	5	100.0	3	60.0
TOTAL	181	75	41.4	46	61.3

Statistical procedure that were used to analyze the data included the statistical average and the Chi-Square test of independence.

There are several concerns regarding the second phase of this study: (1) the questionnaire was based only on areas outlined by MSA; (2) excellence criteria evaluated are those pinpointed in the first phase; (3) results can not be generalized since only the five major higher education institutions were surveyed; and (4) it can not be guaranteed that the questionnaire was answered by the policy makers themselves.

DISCUSSION OF RESULTS

The following discussion reports the findings obtained during the second phase of this study. Respondents rated importance in a five point scale from less importance (1) to very high importance (5). In regard to the degree of fulfillment respondents rated their response on a 3 point scale: Totally (3), Partially (2) and No fulfillment (1). The criteria are listed in order of importance within each of the categories of the different areas pinpointed by MSA.

In regard to the purpose number one "To determine which criteria were considered most important for the policy makers and the degree of fulfillment higher education institutions have achieved in regard to such criteria" the following was found:

The mean obtained by each criteria in regard to relative importance and degree of fulfillment are presented in Table 2. Sixty-one criteria out of 99 were mentioned as very important. It is interesting to note that the overall ranking for all of the criteria was not less than an average of 3.00 in the relative importance scale (1 to 5). From Table 2 it can be observed that with respect to relative importance, although students are considered the core of the universities, respondents ranked higher the criteria concerning faculty and administrators. The two highest ranked criteria were faculty academic preparation and expertise in their respective teaching area. The administrator's dedication and commitment with the achievement of excellence was ranked third.

When considering the degree of fulfillment higher education institutions have accomplished as to such criteria, the highest ranked coincided with those mentioned above as most important (see Table 2). Respondents indicated the academic preparation, expertise of faculty and the administrators dedication as the most prominent excellence criteria in higher education institutions. Also, prominent were the entering students' general point average and the college entrance examination scores. It is worthy to highlight that the last two criteria were not

considered important by policy makers. It is noteworthy that the overall ranking for all of the criteria was not less than 1.52 in a scale from 1 to 3.

TABLE 2

Means for the Five Highest Ranked Criteria of each Category in Regard to Importance

Importance Mean		Degree of Fulfillment Mean
	STUDENTS	
	Entering Characteristics	
4.41	*Adequate Motivation and Self-Improvement	1.52
4.22	*Adequate Reading Skills	1.67
4.20	*Adequate Writing Skills	1.57
4.17	*Adequate Study Habits	1.33
4.11	*Adequate Communication Skills	1.61
	Development During University Life	
4.37	*Development of Satisfactory Critical Thinking Skills	1.67
4.35	*Academic Progress	1.98
4.13	*Correct Language Usage	1.67
4.06	*Development of Interdisciplinary Vision	1.78
3.87	*Development of an Adequate Balance in the Appreciation of Arts and Sciences	1.70
	Outcomes At Graduation	
4.58	*Development of Ethical Principles	1.76
4.50	*Mastering of Major Disciplines	2.02
4.48	*Learning to Learn Skills	1.78
4.39	*Commitment with the Improvement of Society	1.80
4.26	*Optimum Preparation for Employment	1.89
	ACADEMIC PROGRAMS	
	Characteristics	
4.41	*Clearly Defined Goals and Objectives	2.00
4.41	*Adequate Integration Between Major and Basic Courses	1.96
4.37	*Pertinent the Employment Market	2.04
4.28	*Requirement of Practical Experiences, Laboratories and Seminars	1.89
4.24	*Pertinent to Social Needs	1.89
	Curriculum/Content	
4.46	*Pertinent	2.00
4.24	*Promote Critical Thinking Skills	1.74
4.22	*Promote the Development of Skills in the Major Discipline	2.11
4.20	*Incorporate the Use of Emerging Technology	1.91
4.17	*Emphasize General Education	1.96

CONT: TABLE 2
Means for the Five Highest Ranked Criteria of each Category in Regard to Importance

Importance Mean		Degree of Fulfillment Mean
	Faculty	
4.89	*Adequate Academic Preparation	2.39
4.83	*Expertise	2.30
4.74	*Commitment to Students	1.98
4.72	*Updated in his/her Discipline	2.09
4.67	*Adequate Communication Skills	2.13
	INSTITUTIONAL ENVIRONMENT	
	Instructional Resources	
4.65	*Sufficient and Adequate Library Resources	2.04
4.41	*Incorporation of Emerging Technology	1.98
4.28	*Research Laboratories	1.78
3.78	*Students and Faculty Exchange Programs	1.63
	Support Services	
4.35	*Computer Center	2.15
4.28	*Solid Counseling and Guidance Programs	2.09
4.17	*Adequate Services Rendered by the Registrar's Office	2.15
4.17	*Athletic Facilities	2.11
4.00	*Optimal Medical Services	1.94
	Administrators	
4.78	*Commitment to the Achievement of Excellence	2.26
4.74	*Dedication	2.33
4.72	*Honesty	2.20
4.72	*Competent	2.00
4.63	*Perspective of the Future of Higher Education	2.07
	Physical Facilities	
4.74	*Comply with Security Rules and Regulations	1.98
4.67	*Adequate	2.15
4.61	*Clean	2.13
4.28	*Without Architectonic Barriers	1.67
4.00	*Ample	1.91
	Fiscal Resources	
4.61	*Sufficient to Meet the Financial Needs of the Programs Offered	1.94
4.61	*Sufficient to Meet Institutional Growth	1.89
4.39	*Obtain From Different Sources	1.89
4.26	*Enough to Make the Institutions Self-Sufficient	1.67
4.28	*Principally Allocated to Academic Areas	2.00

CONT: TABLE 2
Means for the Five Highest Ranked Criteria of each Category in Regard to Importance

Importance Mean		Degree of Fulfillment Mean
	EXTERNAL ENVIRONMENT	
4.50	*Identification or Commitment With the Community	2.02
4.48	*Receptiveness To Change	1.94
4.46	*External Environment Must Be Considered in the Planning of Programs, Activities and Services	2.04
4.44	*Interaction within the Community	2.13
4.15	*Reciprocal Relations	1.83

In regard to the purpose number two, "To compare the rankings by institutional control (public and private) in terms of relative importance and degree of fulfillment" the following was found:

In terms of the importance assigned to this criteria, significant differences were found on 25 out of 99 of them (See Table 3). The greatest difference (.001 level) were: student's understanding of religious principles which was highlighted by private institutions respondents and on adequate services rendered by the Registrars' Office, highlighted by public institutions respondents. It is important to note that three out of four of the private institutions surveyed are religious oriented. Differences at .01 level were found on criteria regarding: students' "learning to learn skills", adequate integration between major and basic courses in the academic programs; academic programs that promote the development of skills in the major disciplines, adequate faculty communication skills and commitment to students, administrators dedication, fiscal resources obtained from different sources and university receptiveness to change according to the external environment; each of these criteria were highly ranked by the public institutions respondents. The authors considered that the importance given to these criteria by public institutions respondents obey the current trends in the university reform promoted by the government.

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Table 3
Chi-Square Values for Relative Importance by Institutional Control

CRITERIA	CHI-SQUARE	DF	SIGNIFICANCE
STUDENTS			
Entering:			
*Adequate Motivation and Desire for Self Improvement	19.11	10	.05
During:			
*Understanding of Religious Principles	26.41	10	.001
Outcomes:			
*Development of Ethical Principles	16.43	8	.05
*"Learning to Learn" Skills	15.83	6	.01
ACADEMIC PROGRAMS			
Characteristics:			
*Adequate Integration Between Major and Basic Courses	21.46	8	.01
*Requirements of Practical Experiences, Labs and Seminars	15.63	8	.05
*Emphasis on Basics Skills	16.65	8	.05
*Promote the Development of *Skills in the Major Disciplines	20.27	8	.01
Faculty:			
*Updated in his/her Discipline	17.29	8	.05
*Experience in his/her Teaching Area	17.98	8	.05
*Commitment to Research	15.97	8	.05
*Commitment to Students	16.25	6	.01
*Adequate Communication Skills	19.47	6	.01
INSTITUTIONAL RESOURCES			
Support Services:			
*Adequate Services Rendered by the Registrar's Office	22.87	8	.001
*Parking Facilities	18.61	10	.05
Administrators:			
*Perspective of the Future of the Higher Education	18.75	8	.05
*Ability to Interact with Groups	16.88	8	.05
*Academic Preparation	16.84	8	.05
*Dedication	16.97	6	.01
*Honesty	15.53	6	.05
Physical Facilities:			
*Ample	16.73	8	.05
*Comply with Security Rules and Regulations	15.53	6	.05
Fiscal Resources:			
*Obtained from Different Sources	23.94	10	.01
EXTERNAL ENVIRONMENT			
*Receptiveness to Change	19.06	8	.01

When considering the degree of fulfillment significant differences were noted on 17 of the excellence criteria. Table 4 illustrates Chi-Square values of the rankings by institutional control. The criteria related to administrators showed significant differences at the .01 level. Private institutions respondents, when compared to public ones, considered that they have accomplished a higher degree of fulfillment in areas such as: administrators' perspective regarding the future of higher education and their ability to establish relations with the external community. Public institutions respondents were likely to consider that they have accomplished a higher degree of fulfillment in the administrators' academic preparation. These findings are congruent with the present policy of their institutions. For example, private institutions are more concerned with strategic planning and strengths the relationship with their surrounding communities while the public institutions encourage the professional development of its administrative staff by providing them study time during working hours.

Table 4

Chi-Square Values for Degree of Fulfillment by Institutional Control

CRITERIA	CHI SQUARE	DF	SIGNIFICANCE
ACADEMIC PROGRAMS			
Characteristics:			
*Comprehensive	12.53	6	.05
*Inter and Multidisciplinary	14.52	6	.05
Faculty:			
*Adequate Academic Preparation	16.84	4	.01
*Updated in his/her Discipline	15.00	6	.05
*Expertise	9.61	4	.05
*Commitment to the Teaching-Learning Process	15.45	6	.05
Support Services:			
*Optimal Medical Services	18.24	6	.01
*Adequate Services Rendered by the Registrar's Office	15.41	6	.05
*Placement office	13.97	6	.05
*Computer Center	19.07	6	.01

Table 4
Chi-Square Values for Degree of Fulfillment by Institutional Control

CRITERIA	CHI SQUARE	DF	SIGNIFICANCE
Administrators:			
*Perspective of the Future of Higher Education	20.48	6	.01
*Ability to Interact with Groups	18.83	6	.01
*Academic Preparation	17.89	6	.01
*Ability to Establish Relationship with the External Community	15.97	6	.01
Physical Facilities:			
*Ample	18.31	6	.01
Fiscal Resources:			
*Principally Allocated to Academic Areas	19.71	6	.01
EXTERNAL ENVIRONMENT			
*Receptiveness to Change	18.43	6	.01

In regard to purpose number three, "To determine if there are significant differences between the relative importance assigned to the criteria and the degree of fulfillment of these criteria by the institutions" the following was found:

Chi-Square values of the differences between the relative importance and the degree of fulfillment are presented in Table 5. Significant differences were found on 63 of the 99 criteria. That is, it seems that although respondents considered important several criteria, they did not believe they are currently present in Puerto Rico higher education institutions. This is particularly observed concerning students (26 out of 33) and characteristics and curriculum/content of academic programs (18 out of 18). This difference was less likely to be present in the criteria related to fiscal resources and external environment.

It is a great concern for the authors that most respondents of the survey think that Puerto Rico institutions were not complying with 64 percent of the indicators of excellence. These findings show the incongruence between the perception of the policy makers and the means and ways of the higher education institutions.

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TABLE 5
Chi-square Values for the Comparison of Importance
by Degree of Fulfillment

CRITERIA	CHI SQUARE	DF	SIGNIFICANCE
STUDENTS			
Entering:			
*High School G.P.A.	51.22	12	.001
*College Entrance Examination Scores	28.70	12	.01
*Admission Index	40.95	15	.001
*Adequate Communication Skills	39.93	12	.001
*Adequate Reading Skills	45.48	12	.001
*Adequate Writing Skills	43.45	12	.001
*Mastering of English	35.83	12	.001
*Critical Thinking Skills	38.11	15	.001
*Leadership	28.51	15	.05
During:			
*Correct Language Usage	47.03	15	.001
*Integration of General Culture within Themselves	37.22	12	.001
*Involvement in Extracurricular Activities	53.39	12	.001
*Satisfactory Academic Progress	26.15	15	.05
*Participation in Research Projects	53.37	15	.001
*Commitment to their Institutions	58.15	15	.001
Outcomes:			
*Optimal Preparation for Employment	27.54	12	.01
*Graduation (G.P.A.)	36.03	15	.01
*Interdisciplinary Vision	58.12	15	.001
*Commitment with the Improvement of Society	49.48	15	.001
*Satisfaction with Attainments	50.64	12	.001
*Knowledge of History and Culture	36.56	15	.001
*Development of Ethical Principles	54.43	12	.001
*Development of Religious Principles	26.29	15	.05
*Critical Thinking Skills	37.30	12	.001
*Mastery of Major Discipline	47.55	9	.001
*"Learning to learn" Skills	49.52	9	.001
ACADEMIC PROGRAMS			
Characteristics:			
*Pertinence in the Employment Market	47.65	9	.001
*Adequate Integration Between Major and Basic Courses	58.26	12	.001
*Requirements of Periodical Experiences	31.16	12	.001
*Comprehensive	52.58	15	.001
*Pertinent to Social Needs	51.33	12	.001
*Inter and Multidisciplinary	51.10	12	.001
*Directed Toward Graduate Studies	54.22	15	.001
*Clearly Defined Goals and Objectives	56.65	12	.001

CONT: TABLE 5
Chi-square Values for the Comparison of Importance by Degree of Fulfillment

CRITERIA	CHI SQUARE	DF	SIGNIFICANCE
Curriculum/content:			
*Comprehensive	45.97	15	.001
*Pertinent	27.02	12	.001
*Flexible	33.07	12	.001
*Interdisciplinary	40.33	15	.001
*Incorporate the Use of Emerging Technology	35.18	12	.001
*Promote Critical Thinking	47.84	15	.001
*Emphasize General Education	33.66	9	.001
*Emphasize Development of Basic Skills	31.35	12	.01
*Promote the Development of Skills in the Major Discipline	22.61	12	.05
*Provide Tutorial Resources	43.39	12	.001
Faculty			
*Updated in his/her Discipline	24.76	12	.05
*Experience in their Teaching Area	24.63	12	.05
*Commitment to Students	25.74	9	.01
*Commitment to the Teaching-Learning Process	29.87	9	.001
INSTITUTIONAL ENVIRONMENT			
Instructional Resources:			
*Student and Faculty Exchange Programs	32.46	15	.01
Support Services:			
*Adequate Services Rendered by the Registrar's Office	23.50	12	.05
*Cafeteria	54.52	15	.001
*Placement Office	27.81	15	.05
*Computer Center	19.39	9	.05
Administrators:			
*Perspective of the Future of Higher Education	56.39	12	.001
*Ability to Interact with other Groups	47.94	12	.001
*Academic Preparation	49.70	12	.001
*Ability to Establish Relationship with the External Community	40.86	12	.001
*Honesty	38.35	9	.001
Physical Facilities:			
*Ample	61.85	12	.001
*Modern	21.87	12	.05
*Without Architectonic Barriers	34.53	12	.001
Fiscal Resources:			
*Principally Allocated to Academic Areas	32.03	15	.01
EXTERNAL ENVIRONMENTAL			
*Receptive to Change	34.30	12	.001

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In regard to purpose number four, "To determine if the are significant differences among the constituencies in regard to the importance they assigned to the criteria and their perceptions of degree of fulfillment with these criteria by the Puerto Rican institutions" the following was found:

When conducting the analysis it was observed that the ranking can be distributed in a ~~build~~ bell shaped curve identical to the sample composition. Legislators and prominent figures od the academia, who are the smallest components of the sample, assume extreme positions, while administrators and governing board members mostly tended to remain near the average.

Having noted this peculiarity, the Chi-Squares were conducted to determine differences between administrators and governing board members. Legislators and prominent figures were excluded from the analysis due to the concept of response rate. Significant differences where found on 8 of the 99 criteria in regard to importance. The most remarkable differences were on the program emphasis in general education, students participation in extra-curricular activities during the university life and fiscal resources in enough to make the institutions self-sufficient. No differences were found with respect to criteria fulfillment.

Table 6
Chi-Square Values for Relative Importance by Constituencies

CRITERIA	CHI-SQUARE	SIGNIFICANCE
STUDENTS		
During:		
*Involvement in extracurricular activities	14.18	.01
*Commitment to their institutions	11.28	.05
Outcomes:		
*Learning to learn skills	9.72	.05
ACADEMIC PROGRAMS		
Curriculum/content:		
*Emphasis in general education	12.99	.01

Cont: Table 6
Chi-Square Values for Relative Importance by Constituencies

CRITERIA	CHI-SQUARE	SIGNIFICANCE
INSTITUTIONAL ENVIRONMENT		
Instructional Resources:		
*Adequate and sufficient library resources	5.81	.05
Fiscal Resources:		
*Self-sufficient	13.45	.01
EXTERNAL ENVIRONMENT		
*Considered in the planning of programs, activities and services	8.48	.05
*Receptive to change	9.39	.05

CONCLUDING REMARKS

As in the first phase of this study, traditional and non-traditional concepts of value-added approaches of excellence were mentioned by policy makers. Among the traditional concepts, resource allocation was given a strong emphasis in terms of its importance and as a keen indicator of the degree of excellence the institutions has reached. Faculty and administrators were the resources most likely to be emphasized by respondents as very important components by which Puerto Rico institutions are attaining excellence.

This data confirms that the criteria to define excellence depends on the particular time period and the nature of the institution. Puerto Rico higher education institutions are undergoing a process of transition where an university reform is being considered by the government. Policy makers recognize the importance of traditional and value-added approaches to excellence. However, they still feel more comfortable with traditional concepts which are easier to measure than with the innovative concepts. It also confirmed that although there is no general consensus regarding the definition of excellence, there are common elements on which an agreement may be reached. For example, respondents agree on the criteria

that defines excellence, its' importance and they were likely to pinpoint that the attainment of excellence in higher education depends on its faculty and administrators.

Since that all our universities are claiming excellence as their primary goal, it would be necessary to measure to what extent faculty and administrators are working together to enhance students' cognitive and effective domain. This effort of private and public institutions in Puerto Rico is timely and relevant since it is of common knowledge that the higher education institutions must achieved excellence in order to survive in the 21st Century.

This study illustrates clearly the vision of policy makers towards excellence as it applies to the Higher Education System in Puerto Rico; it also shows how these institutions are complying with selected criteria of excellence. However, for this study to be comprehensive, it is necessary to survey those who receive the services, that is the student body; those who are part of the services, mainly faculty and support staff; parents who pay for the services, and the employers who hire the graduates.

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